March 10, 1964 A. J. DE PIETRO 3,123,914

MOUNTING PLATE

Filed May 8, 1962

FIG. 1.

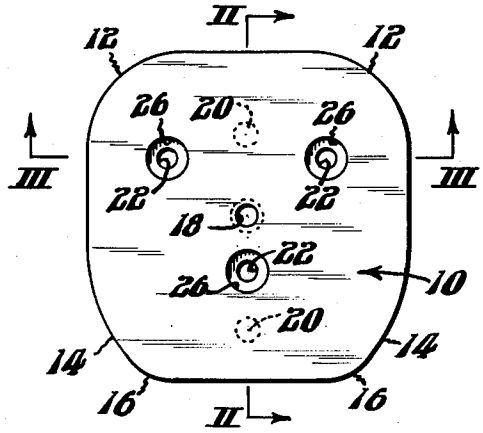


FIG. 4.

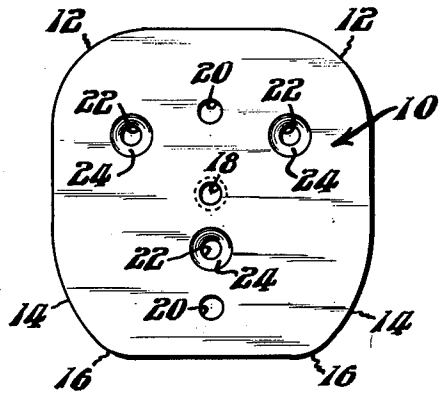


FIG. 2.

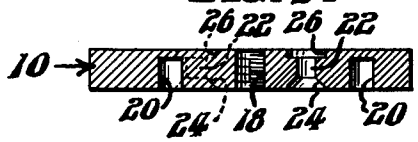


FIG. 3.

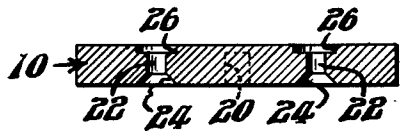
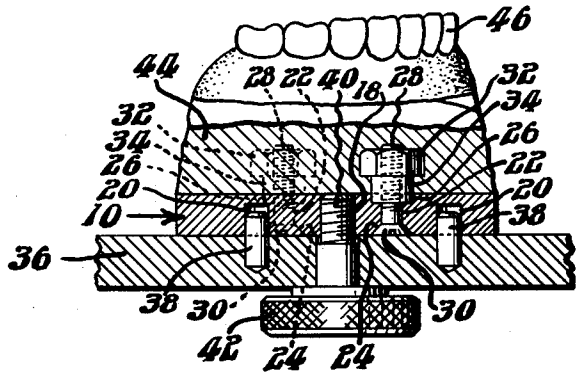


FIG. 5.



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MOUNTING PLATE

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3 Claims. (Cl. 32—32)

This invention relates generally to a device for use by dentists and more particularly to a device for use in the fabrication of artificial dentures.

In the fabrication of artificial dentures, it becomes necessary to secure denture models and clutch trays to the bow members of a dental articulator. Customarily, a thick mounting plate is detachably affixed to a bow member. The denture model or clutch tray is bedded on a thick body of plaster anchored to the mounting plate by elements extending from the latter and mushrooming into the body of plaster.

This expedient has not proved to be entirely satisfactory because the denture model or clutch tray and the plaster body cannot be separated as a unit from the mounting plate without breaking the plaster body, in consequence of which the dentist must keep on hand a large number of mounting plates i.e., one for each denture model and clutch tray he wishes to keep on hand ready for use. Thus he may have use for several hundred mounting plates, and since each costs approximately one dollar, he may find it necessary to keep five hundred or more dollars invested in such plates.

Accordingly, an object of the invention is to provide means whereby a denture model or clutch tray and a thick body of plaster on which the denture model or clutch tray is bedded may be detachably secured to a mounting plate so that the two may be separated as a unit from the mounting plate without any necessity for injuring the plaster.

Other objects of the invention will become apparent when the following description is read with reference to the accompanying drawing, in which:

FIGURE 1 is a plan view of a mounting plate constructed in accordance with the invention;

FIGURES 2 and 3 are sections respectively on lines II—II and III—III of FIGURE 1;

FIGURE 4 is a bottom view of the mounting plate; and

FIGURE 5 is a vertical longitudinal section illustrating the mounting plate in use.

Referring to the drawing, a metal mounting plate constructed in accordance with the invention, designated **10**, is provided at the rear thereof with rounded corners **12**. The front of the mounting plate narrows, as at **14**, and is provided with rounded corners **16**. In a practical embodiment of the mounting plate the same may be 2⅜ inches wide, ¼ of an inch thick and 2⅜ inches long. The plate is provided with a threaded central aperture **18**, and with a pair of depressions **20** in the undersurface thereof respectively proximate the fore and rear ends of the plate. The plate is also provided with three through openings, designated **22**, one of the openings being between the foremost depression **20** and the central aperture **18**. The other two through openings **22** are disposed respectively on opposite sides of the plate, to the rear of the central aperture **18** and in advance of the rearmost depression **20**, as shown. Each opening **22** is provided with a conical countersunk portion **24** at the lower end thereof and an enlarged diameter portion **26** at the upper end thereof.

Referring particularly to FIGURE 5, extending through each of the openings **22** is a screw **28** provided with a countersunk head **30** and a hex nut **32** terminating in a cylindrical body **34**. The plate **10** is seated upon a bow member **36** which mounts a pair of guide pins **38** extending upwardly into the depressions **20** in the bottom of the

plate **10**. A screw **40** projecting upwardly through the bow member **36** is threaded into the central aperture **18** of the plate **10**. The head of the screw **40**, designated **42**, engages the undersurface of the bow member **36**. Overlying the plate **10** is a thick bed of plaster **44** which carries a denture model **46**.

In the use of the mounting plate, nuts **32** are seated upon the top of plate **10** with their cylindrical bodies **34** nested in depressions **26**. The length of the cylindrical bodies **34** is such that the undersurfaces of the hex nuts **32** are disposed a substantial distance above the upper surface of plate **10**. Nuts **32** are affixed to plate **10** by means of screws **28**, the heads of the screws being flush with the bottom of plate **10**. Plate **10** is placed upon bow member **36** with the guide pins **38** engaging in depressions **20**. The pins **38** secure the plate **10** against turning about the axis of the screw **40**. Screw **40** is threaded into the aperture **18** to anchor the plate **10** to the bow member **36**. The denture model **46**, for example, is suitably positioned relative to the plate **10** on the thick bed of plaster **44**, the plaster being packed all around and under the nuts **32** and then allowed to harden. When desired, the denture model **46**, plaster bed **44** and nuts **32** may be separated as a unit from plate **10** after threading out the screw **40**, lifting the denture model **46**, plaster bed **44** and plate **10** as a unit from bow member **36** and threading out the screws **28**. Thus the plate **10** is made available for reuse in mounting another denture model or clutch tray. When needed, the denture model **46**, plaster bed **44** and nuts **32** may be reassembled as a unit with plate **10** and the whole remounted upon the bow member **36** as before, in exactly the same relationship relative to the bow member **36**.

Thus the dentist has need for only two mounting plates **10** for each of his articulators.

It will be understood, of course, that the present invention, as described and shown, is susceptible to various changes and modifications which may be made without any departure from the general principles or real spirit of the invention. Accordingly, it is intended to claim the present invention broadly, as well as specifically, as indicated in the appended claims.

Having thus described my invention, I claim as follows:

1. In combination with one of the bow members of a dental articulator, a denture mounting plate, means for detachably affixing said mounting plate to said bow member in a predetermined position relative thereto, a plurality of nuts having reduced size portions depending from the undersides thereof and seated upon the top of said mounting plate, said nuts being adapted for being firmly embedded in a mass of plaster overlying said mounting plate, a plurality of screws extending freely through said mounting plate and threaded respectively into said nuts and detachably securing the same to said mounting plate each in a predetermined position relative thereto.

2. In combination with one of the bow members of a dental articulator, a denture mounting plate, means for detachably affixing said mounting plate to said bow member in a predetermined position relative thereto, a plurality of nuts having reduced size portions depending from the undersides thereof, a plurality of screws extending freely through openings in said mounting plate and threaded respectively into said nuts and detachably securing the same to said mounting plate each in a predetermined position relative thereto, said openings being provided with enlarged portions affording depressions in the top of said mounting plate and said reduced size portions of the nuts being nested respectively in said depressions, the length of said reduced size portions of the nuts being greater than the depth of said depressions whereby to adapt said nuts for being firmly embedded in a mass of plaster overlying said mounting plate.

3. The combination comprising a denture mounting plate, a plurality of nuts having reduced size portions depending from the undersides thereof, a plurality of screws extending freely through openings in said mounting plate and threaded respectively into said nuts and detachably securing the same to said mounting plate each in a predetermined position relative thereto, said openings being provided with enlarged portions affording depressions in the top of said mounting plate and said reduced size portions of the nuts being nested respectively in said depressions, the length of said reduced size portions of the nuts being greater than the depth of said depressions whereby to adapt said nuts for being firmly embedded in a mass of plaster overlying said mounting plate.

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